

CAPTAIN ANGUS BUCHANAN'S AIR EXPEDITION.

I.

ON A SERIES OF SMALL MAMMALS FROM KANO.

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BY the kindness of the authorities of the Tring Museum we have been entrusted with the examination of a number of small mammals obtained by Captain Angus Buchanan, while stopping at Farniso, near Kano, North Nigeria (altitude 1,700 ft.), in December 1919, on his way to explore the unknown regions farther north.

These Kano Mammals have proved to be of so much interest and to include so many novelties that we have thought it worth while to give a complete list of them.

The most striking form from a zoological point of view is undoubtedly the little short-tailed Gerbil *Desmodilliscus buchmanii*, which represents a genus only discovered in 1917 and hitherto not included in the British Museum collections.

The handsome little carnivore *Pœciliotis rothschildi* is also a discovery of some interest, as it greatly extends the known range of its genus, which has only recently been distinguished from *Ictonyx*.

By the generosity of Lord Rothschild, a set of the species obtained by Captain Buchanan, including the types of new species and subspecies, has been presented to the British Museum.

The only place towards Kano from which the British Museum has hitherto received any noticeable collection of mammals is the Bauchi Plateau, some 160 miles to the south-east, where the missionary brothers G. T. and J. C. Fox collected a number which formed the basis of papers by Thomas in 1911-12.* Practically all the species, however, prove to be different, and show that the two places are in different faunal areas, of which Kano is strikingly more of a desert character.

1. *Hipposideros caffer tephros* Cabr.

♂ 28, ♀ 7.

Adults, in normal dark coat, agreeing in every respect with *H. c. tephros* as defined by Andersen (*Ann. Mus. Genova* [3], iii. p. 12).

Measurements of ♂ and ♀: forearm, 46, 47 mm.; metacarpal III, 33, 34; ear, 13, 13; tail, 28, 25; hindfoot, 8.5, 8.

Skull No. 7: length condyle to canine, 16.9; maxillary width, 5.8; canine to *m*³, 5.7.

* *Ann. Mag. N. H.* (8) vii. p. 457, ix. p. 269, and ix. p. 683.

2. *Pipistrellus culex* Thos.

♂ 5.

3. *Pæciliotis rothschildi* sp. n.♀ 53. December 25, 1919. *Type*.

A small species with rather sharply defined coloration and a small black tail-tip.

Size about as in *P. multivittata*. Fur thinner, less loose and fluffy, so that as a consequence the black and white bands are more sharply defined, almost as much as in true *Ictonyx*, from which we have recently separated *Pæciliotis*. Black lines more absolutely black, less lightened by intermixed white hairs. General pattern quite the same, the ϕ -shaped marking on the back with a well-defined median black line. White frontal band much broader and more conspicuous, its breadth approximating to that of the black muzzle band in front of it, and not much narrower than in the black crown band behind it. Below, on cheeks and interramia it is quite continuous, and nearly equally broad. Ears black with a very slight white edging at tip. Black bands on top of neck continued forward to join the black crown patch; not cut off at the occiput as in other species. Belly with two inconspicuous rows of small white patches running down the sides from the axillary to the inguinal region. Tail not very bushy, mostly washed with white; the terminal hairs tipped with black, as in *P. libyca*, but the black far less in extent.

Skull about as in *P. multivittata*, but rather more robust.

Dimensions of the type skin, measured in flesh:

Head and body, 222; tail, 126; hindfoot, 29.5; ear, 17.

Skull (not yet received from Capt. Buchanan).

A male skull sent home by Major Cock measures: condylo-basal length, 50 mm.; zygomatic breadth, 30; interorbital breadth, 14.5; intertemporal breadth, 11.5; mastoid breadth, 27.5; vertical height, including bullae, 21; palatal length, 24. Length of p^1 on outer edge, 5.9; transverse diameter of m^1 5.4.

This little Zoril is a very well marked and striking species, and constitutes a great extension of the range of the genus *Pæciliotis*, the previously known species occurring from Algeria to Suakin and the Upper Nile. Its original discoverer was Major Hubert Cock, R.A., who obtained a specimen at Zungeru, N. Nigeria, in 1904, but was only able to bring home the skull, which is now in the National Museum and is measured above.

The genus *Pæciliotis* has only been recently founded by us for the members of the *Ictonyx libyca* group, these being distinguished from true *Ictonyx* by various essential characters, of which the most noteworthy are the truncated skull, hypertrophied bullae, and more hairy palms and soles. *P. multivittata* Wagn., referred to above, is better known as *frenata* Sund., but this latter name is certainly a synonym of the former.

We have much pleasure in naming this very handsome little animal after Lord Rothschild, by whom Captain Buchanan's expedition has been arranged, and to whose generosity the National Museum owes a series of all the species obtained, including the types.

4. *Taterillus gracilis angelus* subsp. n.

♂ 18, 19, 26, 40, 51, 58, 80; ♀ 35, 38, 52, 79.

Paler than true *gracilis* and with whitish head-markings.

Size as in true *gracilis*. General colour above more buffy, less ochraceous than in that animal. In some instances this is not so marked on the back, but the crown and forehead are in all cases of the paler and more buffy tint. Sides of muzzle white nearly up to eyes. A linear area along above eye and extending back to the ear-opening white or whitish, so that in upper view the whole frontal area is bordered on each side with whitish. Ears buffy. Hands and feet pure white. Tail very pale-coloured, generally whitish above, rarely rather buffy, and white below to the tip, including the underside of the pencil.

Skull as in *gracilis*.

Dimensions of the type:

Head and body, 113; tail, 148; hindfoot, 29; ear, 19.

Skull, greatest length, 33; condylo-incisive length, 29; palatal foramina, 6.1; upper molar series, 5.

Type. Young adult male, No. 51. Collected December 24, 1919.

Distinguished from true *gracilis* by paler colour and the whitish lateral areas on the head.

5. *Gerbillus nigeriae* sp. n.

♂ 48, 56, 57, 65; ♀ 24, 50, 55, 60, 62, 63, 64.

A small Gerbil allied to the Sudan *G. agag*.

Size about as in *G. agag*. General colour about normal Gerbil colour, not so vivid as in the North Saharan *G. gerbillus*. Cheeks white, a lighter patch in front of the eye, a more marked one behind it, and another behind base of ear. Ears buffy. Fore-limbs white from elbow, hind- from ankle; feet comparatively short, soles hairy. Tail pale buffy above proximally, the rest white except that there are a few brown hairs in the inconspicuous pencil.

Bullae small, about as in *G. allenbyi* and the small species of *Dipodillus*; much smaller than in *G. gerbillus* and its allies.

Dimensions of the type:

Head and body, 98 mm.; tail, 108; hindfoot, 23; ear, 13.

Skull, greatest length, 28; condylo-incisive length, 24.3; zygomatic breadth, 15.5; nasals, 10.7; breadth of brain-case, 13.2; anterior palatal foramina, 4.7; posterior palatal foramina, 2.6; bullae, 9×5.7 ; upper molar series, 4.

Type. Old female, No. 55. Collected December 25, 1919.

This pretty little Gerbil is no doubt closely allied to the *G. agag* of the Egyptian Sudan, but has longer ears, a tendency to lighter patches in front of as well as behind the eyes, and a buffy whitish instead of brownish upperside of tail, of which the terminal tuft is less developed and has less brown in it.

6. *Desmodilliscus buchanani* sp. n.

♀ 25.

Allied to *D. braueri* of the Egyptian Sudan, but with less enlarged bullae.

Size about as in *D. braueri*, or rather smaller. Fur very soft and fine.

General colour above sandy fawn, the sides little paler than the back, the fur deep slaty blackish at base over most of the buffy area; but in three nearly equidistant regions, one below the ears, one in the centre of the flanks, and one behind the hips, the slaty is absent, and the hairs are white with buffy tips. Undersurface as usual wholly pure white. Cheeks, a prominent patch behind the eyes, and another behind the ears white. Ears short, their proecotote whitish with black edges; metentote blackish but with fine white hairs on it. Forelimbs and hindfeet white; palms and soles apparently as described in *D. braueri*. Tail little more than half as long as the head and body, thinly haired, not pencilled, wholly white.

Skull on the whole not dissimilar from that of *D. braueri*, as shown in the excellent figures published by Wettstein. The bullae are, however, a good deal less swollen, especially anteriorly, where they do not nearly reach the zygomata, nor surpass them laterally. Posterior palatal foramina even larger than in *braueri*, exceeding in area the anterior pair.

Incisors exceedingly narrow, and so bevelled that the strongly marked grooves appear laterally to be halfway along the outer side of the tooth; front surface white or whitish. Molars apparently very similar in structure to those of *D. braueri*, except that the anterior lobe of m_1 is more or less median, instead of diverging outwards. M_3 wholly absent, as in *D. braueri*.

Dimensions of the type:

Head and body, 66 mm.; tail, 37; hindfoot, 15; ear, 9.

Skull, greatest median length, 21.4; condylo-ineisive length, 20; zygomatic breadth, 12.8; nasals, 7; interorbital breadth, 3.8; breadth of brain-case, 10.4; bi-meatal breadth, 12.8; distance between bullae across interparietal, 6; palatilar length, 9.3; anterior palatal foramina, 3.8; posterior palatal foramina, 2.9; diagonal length of bullae, 9.8; front of meatus to back of bullae, 8.5; upper molar series, 3.2.

Type. Young adult female, No. 25. Collected December 19, 1919.

This remarkable little Gerbil is a most valuable and acceptable addition to the National Collection, as it represents one of the few genera that we had not previously had. The original species was described by Dr. Wettstein* from near El Obeid in the Egyptian Sudan, and this is clearly a second species of the same genus, which is related to *Microdillus*, *Desmodillus*, and the other short-tailed Gerbils.

We have named it in honour of its captor, to whose interest in collecting small mammals we are indebted for the many novelties contained in this Kano series.

7. *Steatomys cuppedius* sp. n.

♂ 36, 59; ♀ 39, 44, 61, 70.

A small species of the *S. minutus* group, with comparatively long tail.

Size about the same as in *S. minutus* and *loveridgei*, therefore much smaller than the ordinary species allied to *S. pratensis*, and still more so as compared with the only Nigerian species hitherto known, *S. caurinus*. General colour pale drab, without definite darkening on crown or middle of back, though of course

* *Denkschr. Akad. Wiss. Wien*, vol. xciv. part ii. 1917, p. 115.

the sides are rather paler. Undersurface as usual white, the white area rising well up on the cheeks, and taking in the whole of the forelimbs, but not the legs. Ears of medium length, pale brown, a well-defined white spot at the base of their outer edge, just below the meatus. Hands and feet pure white. Tail decidedly longer than in *minutus* and *loveridgei*, almost wholly white, a few darker hairs on the middle of its upper surface at base and tip.

Skull stoutly built; bullae of medium size; palatal foramina well open, reaching backwards to the level of the middle of the first lamina of m^1 .

Dimensions of the type:

Head and body, 81 mm.; tail, 42.5; hindfoot, 13.5; ear, 13.5.

Skull, greatest length, 21.7; condylo-incisive length, 20.4; zygomatic breadth, 11.4; nasals, 8.6; palatilar length, 9.5; palatal foramina, 4.2×2.1 ; upper molar series (worn), 3.5.

Type. Female, No. 70. Collected December 29, 1919.

This *Steatomys* is readily distinguishable by its small size and comparatively long tail. On the other hand, the species discovered by Mr. Fox on the Bauchi Plateau—*S. caurinus*—is one of the largest of the genus, with a skull over 27 mm. in length.

8. *Arvicanthis* sp.

♂ 21, 68; ♀ 4, 71, 72, 76, 77.

A. testicularis group.

9. *Rattus* (*Mastomys*) sp.

♂ 69; ♀ 47.

10. *Rattus* (*Myomys*) *daltoni* Thos.

♂ 8, 22, 31, 32, 42, 43, 46, 49, 75; ♀ 33, 37, 54.

The majority of these specimens are quite like ordinary *daltoni*, but three of them, nos. 32, 46, and 49, are strongly melanistic, quite different from the rest, and so like large examples of *Mus musculus* that they were at first supposed to be that animal, and then, on closer study, a special local blackish species. But we have now no doubt that they really are melanos of *R. daltoni*, thus giving an example of a somewhat rare phenomenon among wild Muridae, especially among such as inhabit dry countries.

11. *Leggada haussa* sp. n.

♂ 13, 14, 16, 17, 29, 45; ♀ 15, 49, 67.

A small pale gerbil-coloured species.

Size among the smallest of the genus. Fur crisp, not spiny, hairs of back about 3 mm. in length. General colour above pale sandy or gerbil colour, not far from "cinnamon-buff." Sides "light ochraceous-buff." Undersurface as usual pure white, the white including the whole of the forearms, but a line of buffy runs down the back of the legs to the ankles. Ears pale brown; a distinct white spot just below their outer base.

Skull of normal proportions; palatal foramina long; choanæ not specially contracted or pushed backwards. Molars of the highly developed *Leggada* type, with long anterior lobe to m^1 .

Dimensions of the type :

Head and body, 55 mm. ; tail, 37 ; hindfoot, 11·5 ; ear, 9·5.

Skull, greatest length, 17 ; condylo-incisive length, 16·1 ; zygomatic breadth, 9 ; interorbital breadth, 3·2 ; palatal foramina, 4 ; upper molar series, 3.

Type. Adult female, No. 67. Collected December 29, 1919.

This tiny mouse is related to the ordinary W. African *L. musculoides* Temm., but is decidedly paler in colour, and always has a distinct white spot at the base of the ear.
